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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,350	03/06/2002	Stefan Wilhelm	LINDE-581	7250

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EXAMINER

CIRIC, LJILJANA V

ART UNIT PAPER NUMBER

3753

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/091,350

Applicant(s)

WILHELM ET AL.

Examiner

Ljiljana (Lil) V. Ciric

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt and entry of the reply filed on February 23, 2005 is hereby acknowledged.
2. Claims 1 through 23 remain in the application.
3. Upon reconsideration in view of the file wrapper history of the application as a whole, the indicated allowability of claims 1 through 23 is hereby withdrawn. New rejections of the claims follow.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the center of gravity of the at least one heat exchanger block as recited in each of claims 3, 10, and 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 3753

Specification

5. Receipt and entry of the amended abstract is hereby acknowledged.
6. The abstract of the disclosure is objected to because it does not avoid using the legal phraseology used in patent claims, such as “means”. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1 through 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claims 1 through 18 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the element(s) necessary for allowing the at least one heat exchanger block to be “arranged movably in the insulating vessel” as recited in each of base claims 1, 9, 14, and 18.

Additionally, as written with claim 5 depending from base claim 1, it is not clear whether or not the term “feed and/or discharge lines” appearing in the limitations “wherein the heat exchanger blocks (1) have feed and/or discharge lines which lead into a common connection line” [claim 5, lines 1-2] refers to the same elements as the term “pipes” appearing in the limitations “pipes connected to said heat exchanger block for transporting fluids to and from said heat exchanger block” [claim 1, lines 2-3], thus rendering indefinite the metes and bounds of protection sought by the claims. If the two terms refer to the same elements, then the limitations in claim 5 represent improper double-recitation.

There is also insufficient antecedent basis in the claims for the following limitations in the claims, for example: “said third support” [claim 19, line 11; claim 19, line 12; claim 23, line 13; claim 23, line

Art Unit: 3753

14]. Note, however, that there would be sufficient antecedent basis for the limitation “said third support plate” in each of these claims.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10. As best can be understood in view of the indefiniteness of the claims, claims 1 through 3, 6 through 10, 12 through 14, 17 through 20, and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art.

Base claim 1, for example, is written in Jepson format, reciting all of the structural elements of the invention in the preamble, including: at least one heat exchanger block surrounded by an insulating vessel, pipes connected to the heat exchanger block for transporting fluids to and from the heat exchanger block, and “securing means for securing the heat exchanger block hanging in the insulating vessel.”

Based on the disclosure, the “securing means for securing the heat exchanger block hanging in the insulating vessel” as recited in the Jepson preamble is interpreted under 35 U.S.C. 112, sixth paragraph, as encompassing at least two aluminum support plates 3, a substantially triangular steel plate 4 or a steel support which is articulately connected to the aluminum plates 3 at two corners by bolts or joints 5, and a joint 7 at the third corner of the steel plate 4 which allows movement in the plane of the steel plate 4 or about an axis perpendicular to the steel plate 4, and any other disclosed equivalents thereof. Furthermore,

Art Unit: 3753

since the claim is drafted in Jepson format, all of the elements of the invention recited in the preamble of base claim 1, including the securing means and disclosed equivalents thereof are, upon reconsideration, considered to be admitted prior art. Applicant is thus hereby advised that drafting a claim in Jepson format (i.e., the format described in 37 CFR 1.75(e); see MPEP § 608.01(m)) is taken as an implied admission that the subject matter of the preamble is the prior art work of another. The functional limitations following the “wherein” clause in claim 1 are inherently met by the structural elements recited in the preamble of claim 1. Each of base claims 9, 12, 14, 18, 19, and 23, as well as each of the dependent claims listed above generally merely restates the admitted prior art structural elements, relying on the admitted prior art structure of claim 1 and/or on functional limitations inherent to the structure for patentability.

The admitted prior art thus reads on the claims.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. As best can be understood in view of the indefiniteness of the claims, claims 4, 5, 11, 15, 16, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art.

As discussed in greater detail above, the admitted prior art discloses the invention essentially as claimed, including the inventive heat exchanger as comprising “at least one heat exchanger block”, which implies that plural heat exchanger blocks could be encompassed thereby. The admitted prior art, however, does not explicitly nor inherently disclose there being at least two or more such heat exchanger blocks, as recited in each of the abovementioned claims. Nevertheless, especially given that the possibility of a plurality of heat exchanger blocks being included as part of the heat exchanger, it would not be of any

Art Unit: 3753

inventive significance to merely duplicate parts (i.e., heat exchanger blocks) without producing unexpected results thereby.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the admitted prior art heat exchanger by including more than one heat exchanger block in order to increase the heat transfer area and thus to also increase the heat transfer rate through the heat exchanger.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (571) 272-4909.

While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached at (571) 272-4930.

lvc

May 16, 2005



LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3753